Stepping in for the Polluters? Climate Justice under Partial Compliance

Hohl, Sabine ; Roser, Dominic

Abstract: Not all countries do their fair share in the effort of preventing dangerous climate change. This presents those who are willing to do their part with the question whether they should 'take up the slack' and try to compensate for the non-compliers' failure to reduce emissions. There is a pro tanto reason for doing so given the human rights violations associated with dangerous climate change. The article focuses on fending off two objections against a duty to take up the slack: that it is unfair and ineffective. We grant that it is unfair if some have to step in for others but argue that this does not amount to a decisive objection under conditions of partial compliance. With regard to the charge of emission reductions being ineffective, we argue that the empirical case for this claim is missing and that even if it were not, there still remains the option of taking up the slack in other forms.

Analyse & Kritik 02/2011 (© Lucius & Lucius, Stuttgart) S. 477–500

Sabine Hohl/Dominic Roser

Stepping in for the Polluters? Climate Justice under Partial Compliance*

Abstract: Not all countries do their fair share in the effort of preventing dangerous climate change. This presents those who are willing to do their part with the question whether they should 'take up the slack' and try to compensate for the non-compliers' failure to reduce emissions. There is a *pro tanto* reason for doing so given the human rights violations associated with dangerous climate change. The article focuses on fending off two objections against a duty to take up the slack: that it is unfair and ineffective. We grant that it is unfair if some have to step in for others but argue that this does not amount to a decisive objection under conditions of partial compliance. With regard to the charge of emission reductions being ineffective, we argue that the empirical case for this claim is missing and that even if it were not, there still remains the option of taking up the slack in other forms.

1. Introduction

Climate change is the epitome of a challenge for collective action. The effect of greenhouse gases on the climate depends in no way on where on the planet they are emitted. Therefore, if dangerous climate change is to be prevented, everybody's efforts to limit emissions matter. As is to be expected, however, not everybody contributes to those efforts. And neither is it easy to enact an agreement—not to speak of a monitored agreement, coupled with sanctions—to make everybody contribute. The global nature of the problem and the economic costs of emission reduction measures hamper all attempts for reaching an effective treaty. Climate policy therefore presents itself as an ideal test case for non-ideal theory dealing with partial compliance: First, there is a tremendously serious harm to be prevented, second, this harm ought to be prevented jointly, third, many important agents are not complying (in the sense that they do less than their fair share in the joint effort), and last, it would be possible for the compliers to act in place of the non-compliers in order to prevent the tremen-

* We want to thank Christian Baatz, Carina Fourie, Anton Leist, Aaron Maltais, Fabian Schuppert, Christian Seidel, Ivo Wallimann, and two anonymous referees for helpful comments. We also gratefully acknowledge the financial support of the URPP Ethics of the University of Zurich and the Austrian Climate Research Programme of the Climate and Energy Fund.

dously serious harm.[1] Many agents are aware of this situation and give the compliance levels of others large weight in their deliberations. George W. Bush famously claimed: "I'll tell you one thing I'm not going to do is I'm not going to let the United States carry the burden for cleaning up the world's air, like the Kyoto treaty would have done. China and India were exempted from that treaty. I think we need to be more even-handed." (Singer 2002, 26) Similarly, the EU explicitly made its quantitative reduction goal dependent on the compliance levels of others (minus 20% by 2020 if others do not act, minus 30% if they do).[2] China's lead negotiator for Copenhagen referred to Western two-car households and said: "Many Chinese households have only just purchased their first car and they tell us we should ride bikes?"[3] These quotes can all be interpreted as expressing the underlying principle that if other states do less than they ought to do, we may do less, too. From a moral point of view, however, there are two further possible principles: First, if other states do less than they ought to do, we should do our fair share anyway. That is: We should do our fair share *independently* of what others do. Second, if others do not comply—i.e. if they emit greenhouse gases above their fair share—then we have the duty to reduce our emissions *below* our fair share. It is the aim of this article to discuss this last principle, i.e. whether the non-compliance of others in reducing emissions creates a duty for additional emission reductions on our part. In other words: Is there a duty to take up the slack?[4]

In the background of this article there is a rough idea of what kind of climate policy would *ideally* be required. We believe that climate change is a problem for intergenerational *distributive justice* but for the sake of the argument, we rely here only on the claim that climate change has the realistic potential to leave the *human rights* of future persons unprotected. As some have argued (for example Caney 2009a; Bell 2011), climate change jeopardizes such human rights as the right to life, to health, and to subsistence. In this paper, we use the term 'dangerous climate change' as a shorthand for 'climate change that has an unacceptably large potential for human rights violations'. Given the time lag of several decades between emissions and their full effect on the climate, the duty to prevent the climate change related violation of these human rights in the future falls on the present generation. Thus there is a problem of justice *between* present and future generations. But given this intergenerational task

[1] More precisely, this is possible at least in principle and at least to a large degree. In many instances (for example if large players like the US and China are among the non-compliers) it is not possible to take up the non-compliers' share simply by means of reducing one's emissions to zero. Rather, one would have to aim at negative emissions by building up sinks or by taking on emission reductions in other countries.

[2] http://ec.europa.eu/research/energy/eu/policy/energy-and-climate-policy/index_en.htm (retrieved June 21, 2011).

[3] http://dotearth.blogs.nytimes.com/2010/09/02/china-sustains-blunt-you-first-message-on-co2/ (retrieved June 21, 2011).

[4] Note that many of the considerations that are adduced in this article also bear on the question what relevance the compliance level of other non-compliers has for determining the *strength* of the duty of non-compliers to do more than they currently do (rather than bearing only on the question what relevance the compliance level of non-compliers has for the duty of the compliers to take up the slack).

of protecting human rights, there is also an issue of justice *within* the present generation. This problem is the just distribution of the emission reduction burdens that are necessary to protect the human rights of future generations.[5] On many different principles—and on any of the plausible ones—it is primarily people in developed nations who have to take the lead in reducing emissions (see for example Caney 2009b; 2010; Meyer/Roser 2010; Singer 2002). We assume for the purpose of this article that countries can be ascribed fair shares in terms of emission reduction obligations or, stated differently, fair shares in terms of an emission budget. On the simplest possible view, the equal per capita view, this amounts to ascribing each country an emission budget proportional to its population, for example one ton of emissions per person and year.[6] The question of this article can then be stated as follows: If other states emit more than their fair share of one ton per person, do we have the duty to reduce our emissions below one ton per person? (A further possibility, to be hinted at later on, is for there to be a duty to take up the slack in the form of other burdens than in the form of additional emission reductions. Such other burdens might for example consist in financing adaptation to climate change or in shouldering the efforts to reach a collective agreement). The question is not about states failing to comply with legally codified (fair or unfair) shares but rather about failing to comply with morality's demands in the sense of either doing less than one's fair share in the absence of a treaty or in the sense of enacting a treaty with less than fair shares. In discussing this question, we will use the following terminology: The states that do not exceed their fair share of emissions are 'compliers' (whether or not they are willing to take up the slack), while the states that exceed their fair share of emissions are 'non-compliers'. The states that lower their level below their fair share of emissions are called 'slack takers'. Given that political discussions on climate change are often framed in terms of the compliance and non-compliance of states, our argumentation focuses on this type of agent rather than on individuals. This does not mean that other agents, such as individual persons or corporations, do not have any duties with regard to preventing dangerous climate change. Many of the considerations we adduce could be applied

[5] Note that by structuring the climate justice problem as two separate problems (intergenerational and intragenerational justice), we assume that the group of the non-compliers (as a subset of the present generation) does not overlap with the group of the victims of non-compliance (as a subset of future generations). This is a simplification as present emissions also cause some limited harm in the near future (note, however, that the intergenerational aspect of climate change is not the only factor responsible for the limited overlap between non-compliers and the victims of non-compliance; it is also important that on average people in the developed world emit more while people in the developing world are more vulnerable to climate change). If we assumed that the non-compliers were themselves the victims of their non-compliance, we would be faced with a problem of a different nature.

[6] Note that this does not answer the question how countries should distribute the burdens of emission reductions internally.
Many (including one of the co-authors, see Meyer/Roser 2010) have argued that the equal per capita view leaves out important considerations and have proposed alternative schemes of fair burden-sharing. Note that under such alternatives, the same questions about the duty to take up the slack pose themselves as under the equal per capita view. For a comprehensive critique of emissions egalitarianism that goes beyond other critiques in that it not only questions *equal* shares but the very idea of *fair shares of emissions*, see Caney 2009b.

to individuals as well, although a number of aspects might play out slightly differently (such as the effects an agent's reductions have on other agents' efforts or the justification for investing one's effort into convincing others of a political solution rather than into personal mitigation measures).

2. Setting the Stage

Before we discuss objections to the duty to take up the slack, we have to address the concern that such a duty might be a non-starter to begin with and that it is therefore not even necessary to discuss any substantial objections to it. Such a judgement can be based on the thought that once the correct principle for a just distribution of emission rights has been identified, it would be a conceptual mistake to ask further questions about what each agent is morally required to do. What each agent is morally required to do *is* exactly what we determined when we determined a just distribution of emission rights. The countries that do not exceed their fair share of emissions could claim that they have already lived up to what we determined to be their responsibility and that, therefore, there *cannot* be any question about further responsibilities. It is only the non-compliers, they can claim, that are still answerable for failing to live up to their responsibility.

The reason why some are tempted to think that the question whether there is a duty to take up the slack cannot even arise lies in the fact that each agent's *fair share* must be determined under the assumption of full compliance. When one speaks of a fair share, one refers implicitly to a *completely* fair share, i.e. a fair share as determined under the assumption of full compliance. It is tempting to think that since what each agent is responsible for under full compliance *is* precisely his or her fair share, this should be the case under partial compliance as well (see Murphy 2000, 89). J. L. Cohen seems to be reasoning along these lines when he says: "Burdens, like benefits, ought to be fairly distributed, and ceteris paribus no-one is morally required to take on more than his fair share of a burden because someone else defects [...]." (Cohen 1981, 76) Similarly, David Miller (2011, 238–239) states: "The key argument here is that because the collective responsibility to avert injustice has been fairly distributed, *ex hypothesi*, by doing my fair share I have discharged my obligation, and the injustice that remains, because of partial compliance, is the responsibility of the non-compliers, and only theirs." But there is an important difference between the full compliance and the partial compliance condition. Under full compliance, each agent knows that if he does not exceed his fair share of emissions, dangerous climate change will be prevented. Each agent's responsibility is then determined by what his fair share is, since reaching the goal in question is secured if everyone contributes his or her fair share. In situations of partial compliance, in contrast, each complier knows that if all compliers only do their fair share, the goal of preventing dangerous climate change will *not* be reached. Had everyone done their fair share, we would not face the prospect of unacceptable human rights infringements, but given the fact of partial compliance, we now do. Even if

dangerous climate change cannot be avoided anymore, given the level of non-compliance, it is still possible to at least reduce the *degree* of dangerous climate change and thus prevent further human rights infringements. For this reason, it becomes questionable whether the compliers' responsibility is to be determined exclusively by what their fair share would be—in other words, the principle that distributes emission rights fairly is not the only moral principle to be considered. Since fair shares in emission reductions were attributed in order to reach the goal of protecting human rights, it would be strange not to consider the fact whether human rights can be protected important for the specification of our moral duties under conditions of partial compliance. While it is convincing to take full compliance as the appropriate background condition for determining *fair shares*, it is not clear why we should take full compliance as the condition under which our *responsibility or duty all things considered* is to be determined. It has to be established by argument that fair shares are the sole factor to determine what our duty all things considered is (see below, the fairness objection).

Given that we have set aside a fundamental objection to even raising the question of a duty to take up the slack, we now want to sketch a basic consideration that speaks for a duty to take up the slack: If other states do not comply, i.e. if they emit above their fair share, then there is an unacceptably large potential of human rights violations. We as a complying state can increase the protection of these human rights by reducing our own emissions below our fair share. Assuming that the protection of human rights is a high moral priority, there is at least a *pro tanto* reason to take up the slack of the non-compliers. We simply take this *pro tanto* reason as a starting point and focus the article on fending off two objections to taking up the slack that are likely to arise in discussions about emission reductions. The first is that a duty to take up the slack would unfairly burden the compliers (the 'fairness objection'). The second is that taking up the slack might do nothing to effectively protect human rights (the 'effectiveness objection').[7] We are going to show that these objections in their various forms fail in the context of climate justice. If these prominent objections do not succeed—as we attempt to show—the case for the existence of a duty to take up the slack in the context of climate justice is significantly strengthened.

3. The Fairness Objection

The fairness objection is probably the most important objection against the duty to take up the slack. This objection was raised by Liam Murphy (2000, esp. 88–

[7] Traditionally, the debate about the duty to take up the slack concerns duties of beneficence, and more specifically, duties to aid those in need (Cohen 1981; Murphy 2000; Horton 2004). The most prominently discussed objection has been the fairness objection, which plays an important role in Murphy 2000. David Miller 2011 has expanded the discussion on the duty to take up the slack to contexts where preventing harm that is done by a collective is at stake. In a response to Miller, Stemplowska 2011 has further developed the typology of objections to the duty to take up the slack. Our article is indebted to her structuring of the various objections.

93), and has also been defended by David Miller (2011).[8] Whether the goal in question is abolishing world poverty, securing refugees' rights, or preventing dangerous climate change, the unfairness of having to take up more than one's fair share in order for these goals to be reached—simply because others have refused to do their part—weighs heavily. There certainly is not much to be said against the intuition that it is unfair if some states have to cut their emissions below their fair share just because other states refuse to reduce their emissions as much as they should. The crucial question is whether this unfairness decisively speaks against a duty to take up the slack. In this section we argue for a negative answer.

In order to tackle this question, it is necessary to say more about the unfairness that is involved in taking up the slack. We must first distinguish concerns about unfairness from concerns about overdemandingness: One concern with the duty to take up the slack is that it might burden the slack takers with very high costs. Taking up the slack could indeed involve very high costs, particularly if only few states are willing to contribute toward taking up the slack. If what seems objectionable about the duty to take up the slack is the high absolute cost of doing one's fair share plus taking up the slack, then the problem is overdemandingness rather than unfairness. For the existence of a duty to take up the slack to have any practical relevance, the assumption must be made that doing more than one's fair share is not always overly demanding for potential slack takers. If even doing one's fair share already leaves some agents at the edge of overdemandingness, then they might have no further moral duties under partial compliance for that reason. We assume here that there are at least some compliers for whom doing more than their fair share of emission reduction is not overly demanding. How much of the slack can be taken up without running into demandingness problems depends both on the amount of slacking caused by non-compliers—if big emitters are among the non-compliers there is more to compensate for—and on the number and size of compliers willing to take up the slack. Even if it turns out that it is not possible for those countries that are willing to take up the slack to *fully* compensate for the failure of the non-compliers, there surely are some states (for example, Switzerland) that can take up at least part of the slack without crossing the boundary of overdemandingness.

While it is intuitively compelling that having to take up the slack is unfair, it is not transparent what exactly makes it so. There is more than one way of describing the unfairness in play. We think that the construal of unfairness that dominates in the real-world discussion about emission reductions (the unfairness that state representatives have in mind when they ask for more even-handedness in emission reductions) is in fact not the construal that can serve as the basis of the strongest version of the fairness objection. On the construal of unfairness these politicians seem to have in mind, what is unfair is the *relative disadvantage*

[8] David Miller's 2011 position is that there can be a humanitarian duty to take up the slack, but not a duty of justice. The difference between duties of justice and humanitarian duties is that while the former can in principle be enforced, the latter cannot. Miller makes a threefold distinction between duties of justice, humanitarian duties, and supererogatory actions. In this article, we only distinguish between actions that are morally required and supererogatory actions.

that the compliers would incur as a result of taking up the slack. Let's call this the *relative disadvantage interpretation* of the fairness objection. The guiding idea of the fairness objection, according to this interpretation, is to preserve equity within the group of states that, together, must reach the goal of avoiding dangerous climate change. The relative disadvantage interpretation makes sense from a strategic perspective: States are concerned with securing an advantageous position relative to other states, especially in economic and military terms. Taking up the slack stands in tension with the goal of securing an advantageous position, even more so since the compliers' relative disadvantage due to slack taking is not limited to the costs that are directly associated with taking up the slack: Efforts to reduce emissions in order to compensate for other states' failure to do so might indirectly lead to further economic or military disadvantage.

There is something problematic about the relative disadvantage interpretation of the unfairness involved in taking up the slack. If the fairness objection is based on relative disadvantage, it is not only an objection to slack taking, it also provides a reason against even contributing one's fair share whenever one believes the other states to be non-compliers (Miller 2011). Those who contribute their fair share are *already* at a relative disadvantage even if they decide not to take up the slack, since they still bear the cost of doing their fair share, while the non-compliers do not. The quotations from state representatives at the beginning of this article seem to endorse the relative disadvantage interpretation of the fairness objection, including acceptance of the consequence that doing *less* than one's original fair share is allowed if one would otherwise be at a relative disadvantage: State representatives often seem to think that states can justifiably do *less* than their full compliance share as soon as other states do not comply. However, this position is hard to defend from a moral perspective: If an agent stands under a duty to protect human rights, and if this requires that he contribute his fair share towards emission reductions, then it seems he must still perform that duty even if he incurs a relative disadvantage as a result. In other words, relative disadvantage alone cannot defeat one's duty to protect human rights.[9]

If one wants to defend the more plausible position that each state is required to do its fair share, but not more, the unfairness involved in taking up the slack cannot be based only on the compliers' relative disadvantage. And indeed, in the philosophical literature, a different understanding of unfairness dominates. On the construal which is present in the literature, the unfairness is due to the combination of two factors (Horton 2004, 167; Miller 2011): First, if there is a duty to take up the slack, the compliers are required do something that would not have been their responsibility under full compliance conditions. They are asked to do something that is someone else's job. Second, taking up the slack is costly: It negatively affects the interests of the slack takers. Both factors need to be present: The fact that performing a duty is costly as such would not speak against the duty, and if taking up the slack did not affect the slack takers' interests negatively at all, the fact that the duty asks them to do something

[9] See Miller 2011, 238, for a more detailed discussion of why doing less than one's fair share is not allowed in a situation in which the protection of human rights is at stake.

that would not have been their responsibility under full compliance conditions would not seem to matter. The strength of the fairness objection may vary in relation to the costs of taking up the slack (Horton 2004; 2011). Call this the *extra burden interpretation* of the unfairness involved in taking up the slack. Note that on this construal of the unfairness involved in taking up the slack, the relative position of the compliers compared to the position of the non-compliers does not necessarily play any role. The objection is simply that the duty to take up the slack unfairly burdens the compliers with extra costs that they would not have had to bear if everyone had fulfilled their responsibility. According to this view, taking up the slack would even be considered unfair if the slack taker were still in a relatively advantageous position after having taken up the slack. This allows one to say that taking up the slack is not only unfair if a relatively poor country is the slack taker, but also if a rich country has to take up the slack of other countries.

With this second and more plausible interpretation of the unfairness at hand, we can now assess the objection. As granted earlier, there is not much to be said against the claim that having to take up the slack is unfair. But under non-ideal conditions, this unfairness does not straightforwardly entail that compliers are not morally required to take up the slack. In situations of non-compliance, one is confronted with a difficult trade-off between different kinds of 'moral loss'. In our case, either human rights that could be protected by the compliers will very likely be infringed, or the compliers who are willing to take up the slack will be unfairly burdened. The natural thought is that we should weigh the importance of the protection of human rights against the importance of the preservation of fairness. Under partial compliance conditions, a certain degree of unfairness may be acceptable if it is necessary to reach a goal of high moral importance. The basic argument for the duty to take up the slack is this: If the compliers do not step in for the non-compliers, human rights will be infringed, and this weighs more heavily than the unfairness of having to take up the slack.[10] In order for the duty to take up the slack to be invalidated, the preservation of fairness within the group of states would have to have *lexical priority* over reaching the goal of protecting human rights that would otherwise not be protected, and this seems implausible (Stemplowska 2011). Once one allows the distributive unfairness that occurs as a result of the duty to take up the slack to be weighed against the human rights that could be protected by such a duty, it is hard to see why fairness considerations should always prevail. Of course, this basic argument can be accepted without denying that fairness considerations continue to play some role under partial compliance. The distribution of burdens among those willing to take up the slack even raises a new question of distributive fairness.

A counter-objection may be raised at this point. It may be argued that the unfairness of taking up the slack and the bad consequences of dangerous climate

[10] For a similar argument in response to Murphy, see Streumer 2004 and Philips 2008. Stemplowska 2011 makes the same point with regard to the duty to help people in dire need. Caney 2005, 772, also argues that the unfairness of asking the compliers to take up the slack weighs less heavily than disregarding the interests of those who would suffer from dangerous climate change (albeit under the assumption that those who would have to take up the slack would be privileged agents).

change, which consist of human rights infringements, cannot simply be weighed against each other in this fashion. The intuition behind this possible objection is that this trade-off fails to take seriously the special importance of fairness considerations. It might be said that the idea of weighing itself assumes an outlook that is unduly consequence-oriented.

We now discuss two arguments one might present for the position that taking up the slack is not morally required, while doing one's fair share is, along with considerations that speak against them. Both arguments make use of the distinction between doing and allowing and establish a connection between fairness considerations and this distinction.

First, Liam Murphy (2000)—anticipating the objection that the costs that are imposed on the victims of non-compliance weigh more heavily than the unfairness of taking up the slack—distinguishes between unfairness prescribed by moral principles and the bad effects that occur as a result of non-compliance with moral principles. He argues that moral principles should not *prescribe* unfairness, but that they cannot do anything about the bad results of non-compliance. The latter is simply not the 'fault' of the principle, since no moral principle can control whether people will adhere to it or not (Murphy 2000, 79, 92, 152, endnote 19). Murphy presents this argument in the context of his discussion of the duty of beneficence,[11] but it can be applied to our context as well: A principle that asks us to take up the slack prescribes unfairness, while the dangerous climate change that occurs if we do not take up the slack is the result of non-compliance. Consequently, if we accept Murphy's point, we should reject the duty to take up the slack. But Murphy's argument is unconvincing. Moral principles cannot simply abstain from taking into consideration the bad results that obtain in case of non-compliance. If a moral principle does *not* prescribe a duty to take up the slack in partial compliance situations, then that same moral principle in fact tacitly accepts the moral costs associated with non-compliance. Since the moral principle *could* make its demands sensitive to whether there is full compliance or not and demand that the slack be taken up in case of non-compliance, it is in some sense the 'fault' of the principle if it does not do so. Of course moral principles cannot control whether they are complied with or not, but what they can do is prescribe actions that compensate for the effects of non-compliance. It is unclear why a moral principle should be 'accountable' for what it prescribes, but not for what it allows.

There is a second way to argue for the position that each agent's duty is limited to doing his fair share. This second argument relies on the distinction between negative and positive duties, and uses fair shares as the criterion to

[11] Murphy makes this point with regard to his principle of collective beneficence and stresses the fact that what is owed to the victims of non-compliance is owed to them for reasons of *beneficence*, not for reasons of fairness (2000, 92). Because of this, he argues, the compliers are not treating the victims unfairly by not taking up the slack, while requiring the compliers to take up the slack is to treat them unfairly. But even if one grants that, in the context of the duty of beneficence, the compliers' failure to take up the slack is not unfair, one can still say that it is a failure to benefit others as much as one should, and securing the well-being of the victims of non-compliance may weigh more heavily than avoiding the unfairness of the duty to take up the slack.

distinguish between the two. So far we have spoken about the duty to prevent dangerous climate change from happening, but it might be important to distinguish between the negative duty not to actively contribute to human rights infringements and the positive duty to prevent human rights infringements from being brought about by other agents (or by external factors). The thought is that fair shares can serve as a criterion to distinguish between the negative duty not to actively contribute to dangerous climate change and the positive duty to prevent dangerous climate change from happening, so that the duty not to exceed one's fair share of emissions would be considered a negative duty, while the duty to take up the slack would be considered a positive duty. The reasoning behind this would be as follows: No (or hardly any) state's emissions of greenhouse gases are sufficient to cause dangerous climate change by themselves, so that no state straightforwardly brings about dangerous climate change. The most we can say of an individual country is that it is actively contributing to dangerous climate change. But what is the criterion that determines the level of emissions at which a state is to be considered an active contributor? In a causal sense, every state is contributing to dangerous climate change, but this is not what matters from the moral perspective: We should not think of states with very low emission levels as active contributors to dangerous climate change. Instead, we should determine each state's maximum level of emissions that does not count as active contribution to dangerous climate change with reference to what that same state's fair share of emission rights would be.

This could be justified in the following way: We know that exceeding a certain global level of emissions leads to human rights infringements. Now we would like to know under which conditions an individual state's level of emissions is to be considered as actively contributing to dangerous climate change, i.e. as a human rights violation rather than a failure to protect human rights. The solution to this problem is to come up with a distributive principle that sets an emission limit for each individual state, a limit above which the state is considered an active contributor to dangerous climate change. Since what we are looking for is a distributive principle, it is natural that the share each state is assigned should be a *fair* share. If this is correct, then a state that exceeds its fair share of emissions is actively contributing to dangerous climate change, while failing to take up the slack does not count as an active contribution to dangerous climate change—taking up the slack is a positive action taken to protect human rights by preventing dangerous climate change from happening, or by making it less severe than it would otherwise be.

Having identified the duty to take up the slack as a *positive* duty to protect human rights, the second step of the argument would then be the claim that there either are no positive duties to protect human rights of future people at the global level, or else only in a weaker form, for example in the form of humanitarian duties. If one is ready to accept this second step, then this seems to provide grounds for the position that each state is morally required to remain within its fair share of emission rights (as a consequence of the duty not to violate human rights), but not to take up the slack of other states.

More subtly, even someone who accepts a positive duty to protect the human rights of future people might argue that there is a difference with regard to the duty to take up the slack between a scenario in which a collection of agents together share a positive duty to prevent an externally caused harm from occurring, and a scenario in which some of the agents involved are actively *causing* the harm that needs to be prevented rather than just failing to contribute to the prevention efforts.

Let's assume that, in both scenarios, some of the agents are non-compliers. In the first scenario, the non-compliers are failing to fulfil a positive duty by refusing to do their part in rescuing people from harm they did not cause. In the second scenario, not only are the non-compliers refusing to provide help, they are also the ones who brought about the harm in the first place. One could hold that this makes a difference for the strength of the duty to take up the slack. One way of putting it is that it is even more unfair if I have to prevent harm that is being caused by another agent than if another agent is only not doing his share of preventing harm that is caused externally. The greater unfairness involved in stepping in for other agents who are causing harm rather than merely failing to prevent harm could then tip the scales against the duty to take up the slack.[12]

Still, it is difficult for anyone who shares the view that there is a positive duty to protect human rights at the global level to argue that preserving fairness in the group of contributors has lexical priority over protecting these rights. One cannot without tension acknowledge these rights and in the next instance claim that fairness considerations always take priority over them, since the reasons which lead to the claim that there are positive duties to protect human rights remain present under conditions of partial compliance.[13] The strong thesis that doing more than one's fair share is *never* morally required in the context of climate justice is therefore hard to reconcile with the position that there is a positive duty to protect human rights with a global scope.

It should be noted that rejecting the strong thesis only leads to the weak conclusion that the fairness objection does not rule out the duty to take up the slack. For all that has been said here, it could still be the case that fairness considerations *limit* the amount of morally required slack taking.

There might be a weaker, more plausible version of the fairness objection (see Horton 2004). It thus remains open just how weighty the burden of the duty to take up the slack is—or in other words, how much below their fair share the compliers must lower their emissions under partial compliance conditions—but rejecting the fairness objection in its strong form excludes the position that no

---

[12] We thank an anonymous referee for bringing this point to our attention. See also Lichtenberg 2010, 563.

[13] Arneson 2004 and Cullity 2004, 75, both make a similar point with regard to the duty of beneficence (and in response to Murphy), using a rescue case as a clear example of a situation in which an agent is morally required to do more than his fair share. Even though it may be problematic to transport intuitions elicited by rescue cases to other contexts, for reasons mentioned by Miller 2007, 234–235, these examples still illustrate the crucial point that the reasons for the existence of a positive duty do not disappear under partial compliance conditions.

extra burden at all can be justified. Admittedly, this leaves the problem unsolved how to justify a non-arbitrary cut-off point for the duty to take up the slack.[14] Solving this problem goes beyond the scope of this paper. But the fact that it is not evident what the cut-off point should be—at what point do considerations of unfairness or demandingness outweigh the importance of protecting human rights?—should not stop us from acknowledging that a moderate amount of unfairness certainly seems tolerable if the alternative is a massive infringement of human rights. The fact that the cut-off point for a duty to take up the slack cannot easily be identified does not entail that there is no non-arbitrary cut-off point at all and neither does it entail that the only non-arbitrary cut-off comes at the point of zero slack taking. In conclusion, granting that having to take up the slack is unfair is compatible with the claim that there is a duty to take up (at least part of) the slack.

4. The Effectiveness Objection

We now turn to an objection of a very different kind. In *section 2* we said that the basic argument for taking up the slack relies on the importance of the human rights that are thereby protected. What we label the effectiveness objection raises the question whether taking up the slack can actually be expected to make *any* difference and, if it does, whether it can be expected to make a *positive* difference. The first worry is that reducing emissions in the midst of non-compliers does nothing to mitigate climate change. The second and even more pessimistic worry is that if we take social feedback effects into account then taking up the slack might even be counterproductive. If taking up the slack by reducing emissions below one's fair share should make no positive difference as far as the protection of human rights is concerned, then the case for taking up the slack breaks down.[15]

Note that our focus lies on whether the emissions (or emission reductions) of a single country can be said to *make a difference* with respect to climate change. This is slightly different from a focus on whether the emissions of a single country can be said to *causally contribute to*, *be responsible for* or *actively contribute to* climate change. In certain cases, these concepts do not coincide with the concept of making a difference.[16] These more difficult concepts are relevant for various

---

[14] We thank Aaron Maltais and an anonymous referee for pressing us to clarify this point.

[15] If one came to the conclusion that taking up the slack makes no difference then one might also think that reducing one's emissions to one's fair share makes no difference. Note, however, that for a number of non-consequentialist theories the failure of emission reductions to make a difference would undermine the duty to take up the slack more decisively and straightforwardly than the duty to stay within one's fair share.

[16] Here are some examples. Failing to take up the slack can be said to make a difference with respect to climate change but this does not imply that it counts as an active contribution to climate change. In over-determination cases, one's action does not count as making a difference to the outcome while it might possibly count as a cause of the outcome. Conversely, the fluttering of a butterfly's wings in a faraway country counts as making a difference with respect to the weather here without it being obvious that it counts as a cause.

issues but, luckily, for the specific issue of the effectiveness objection it is the more straightforward notion of making a difference that counts.[17]

The first worry (unilateral emission reductions expectedly have *no* effect on the climate) is voiced in innumerable ways, especially for the more extreme case of individual emission reductions. Walter Sinnott-Armstrong (2010, 337) writes: "[T]here is no individual person or animal who will be worse off if I drive than if I do not drive my gas guzzler just for fun." Baylor Johnson (2011, 154) says: "[W]hether a particular person's emissions[18] actually produces even a scintilla of relief is far from obvious" or "the fate of the climate is unconnected to whether that individual chooses to make unilateral reductions." Sandler (2010, 172) agrees: "Even a person's entire lifetime impacts [...] is likely to still be inconsequential." Leist (2011, 30) talks a about a physically determined threshold below which climate promoting behaviour is ineffective. In the loose talk of blogs and newspaper columns similarly sweeping claims are made about the effect of emission reductions by whole countries, for example: "[The American Clean Energy and Security Act of 2009] would have *no* impact on climate change without similar regulations by big polluters." (our emphasis)[19] Since such rough but radical statements are sometimes taken literally, it is important that their proponents make clear whether they are to be taken as a shorthand for the claim that many emission reductions expectedly have an extremely *small* effect or whether they actually are to be taken at face value as claims that many reductions have strictly *no* effect. In the following we argue that sweeping statements about unilateral reductions having strictly *no* climate change mediated effect on humans cannot be upheld.[20]

In one particular sense it is of course true that taking up the slack expectedly has no effect. This is so if the only kind of effect one is interested in should consist in whether dangerous climate change will occur or not. However, there is no reason why we should focus solely on *whether* dangerous climate change will occur at all rather than also on *how* dangerous it will be if it occurs. It is a peculiar feature of current public discourse that we sometimes speak as if the morally salient issue is exclusively of a categorical nature: whether there will be dangerous climate change or not, whether human rights will be violated or not, whether there will be catastrophe or not. In contrast, the gradual issue often receives too little attention: how dangerous climate change will be, how many rights will be violated how severely, how catastrophic it will be. If the kind of effect we are interested in were only the 0/1-variable of whether dangerous

[17] Sometimes it is suggested that there is also relevance to whether it is epistemically possible to *identify* which *particular* individuals will be harmed in what particular way as a result of our emissions (see for example the wording used by Sinnott-Armstrong (2010, 336–7) or also Jamieson (1992, 148)). We find it difficult to see the relevance of this, at least for the case at hand. It does seem to us that behaviour of which we know that it violates rights or fails to prevent avoidable harm is usually wrong independently of whether we have the epistemic means of tracing the causal nexus precisely enough to know who exactly it is that is wronged.

[18] Note that Baylor Johnson must be read as meaning emission reductions instead of emissions.

[19] http://www.ewross.com/Global_Governance.htm (retrieved June 21, 2011).

[20] Note that the considerations we adduce would even support the stronger claim that *individual* emission reductions can be expected to make a difference.

climate change will occur or not, then it would be true that in most cases our emission reductions do not make a difference. In most cases, our slack taking alone is not sufficient to prevent dangerous climate change from occurring. In this categorical interpretation of the effect, we are in a classical case of over-determination (cf. for example Parfit 1984, 82). However, there is no reason why we should not conceive of the morally relevant effect in partial compliance situations also in gradual terms—surely, it matters *how* gravely dangerous climate change violates human rights—and if we do so, climate change ceases to be an over-determination problem.

Even if one agrees, however, to conceive of the relevant effect in gradual terms, one might still be sceptical about slack taking making any difference to *how* dangerous climate change will be. To this scepticism we now turn. Those who doubt the effectiveness of small unilateral emission reductions by single countries do not usually doubt that a *drastic* cut to *global* emissions would make a difference with respect to the severity of dangerous climate change. This presents us with a puzzle: How could it be that a drastic cut to global emissions does make a difference but that dividing a drastic cut up into innumerable small cuts leaves these small cuts inconsequential? As Avram Hiller (2011, 354) put it: "If individual drives do not make any difference in [anthropogenic global climate change], but everyone's driving does, then everyone's driving would have to be some odd emergent entity which is not reducible to individual acts of driving. But this is farfetched, metaphysically." Graphically speaking, if we concede that lower global emissions imply a smaller human rights violating effect than larger global emissions, then we must also concede that the curve that connects point A and B in the following figure must slope upwards at least in some places. And that means that some increases in emissions must make a difference.

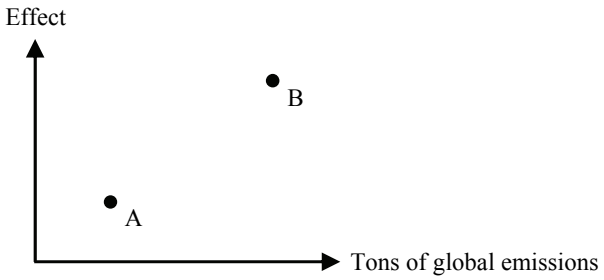

Figure 1: The effect of emissions.

We will distinguish four versions of how the curve that connects the two dots might slope upwards. These four versions indicate how the effect of additional emissions by any given country depends on how much is emitted overall, or, expressed conversely, how the effect of additional emission reductions depends on how much is reduced overall. (Of course, the claim that unilateral reductions

make a difference is made *given* a certain level of emissions by other countries.[21] This dependence on the behaviour of others is not a grave limitation on the claim. There is not much behavior that makes a certain difference 'in itself', i.e. independently of the behaviour of others, at least if the description of the behavior in question does not already include the difference that it makes). The effect on the vertical axis in the figures is to be interpreted as a function of the number of persons whose human rights are violated and the severity with which they are violated. Most of what we say would also apply if the effect were conceived of in terms of wellbeing losses, GDP losses, shortfall from a sufficiency threshold or any similar measure. In the following diagrams, if no country exceeds its fair share, the level of global emissions remains below point A. We assume the actual level of emissions to be higher than this, somewhere between point A and B, and therefore sufficient for dangerous climate change.

The first version of how the curve might slope upwards is the *linear version*. It says that the effect of a ton of emissions is positive and independent of how much is emitted overall. If other countries exceed their fair share by a lot, additional emissions on our part have the same effect as if other countries exceeded their fair share only by a little.

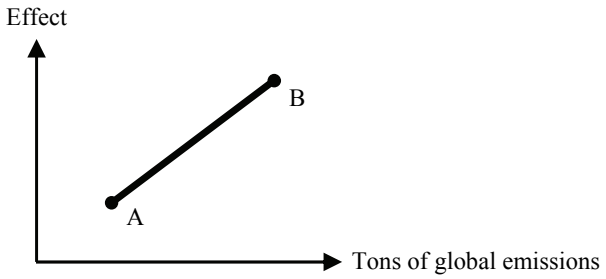

Figure 2: The linear version.

The *concave version* says that the effect is positive and increases *less than* proportionally with increasing emissions. That is: If other states emit a *lot* more than their share, additional emissions by our country cause *less* effect than if others emitted only a *little* more than their share. Or, expressed conversely: if others do not reduce their emissions, reductions by our country have a smaller beneficial effect than if others reduced their emissions, too.
The *convex version* says the opposite.[22] It says that the effect of emissions is

[21] Taking the level of emissions of others as given is not meant to exclude that this given level of others is itself influenced by our decision to reduce or increase our emissions.

[22] Interesting questions can come up in the convex and concave version due to the fact that the extent of the beneficial effect of any ton of emission reduction depends on the compliance level of others. If someone were to claim, for example, that there is a duty to take up half of the slack, she would have to specify whether there is a duty (i) to effectuate half the beneficial effect that the compliance of the non-compliers would have had or (ii) to take over half of the tons that the non-compliers left over. In the convex and the concave version, (i) and (ii) do not amount to the same.

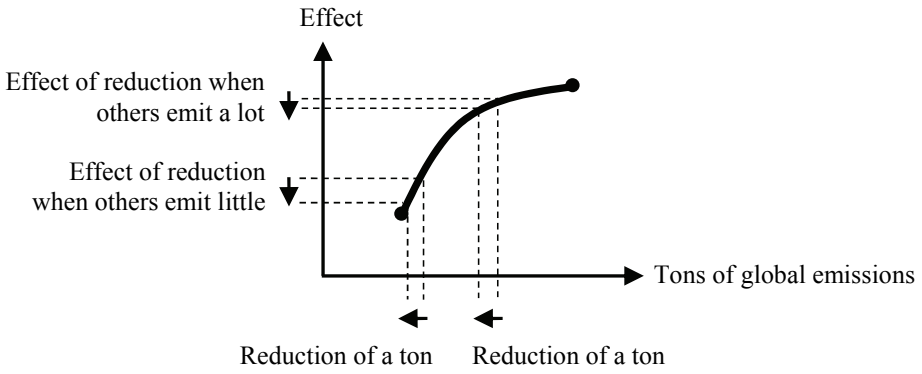

Figure 3: The concave version.

positive and increases more than proportionally. Any additional ton of emissions causes a larger effect than each ton before. This means: If due to non-compliance the overall emissions level is higher than if every country limited itself to its fair share, then any given ton of emissions will have a larger negative effect than it would have had otherwise. Conversely, any ton of emission reduction will have a larger beneficial effect than if all remained within their fair shares.

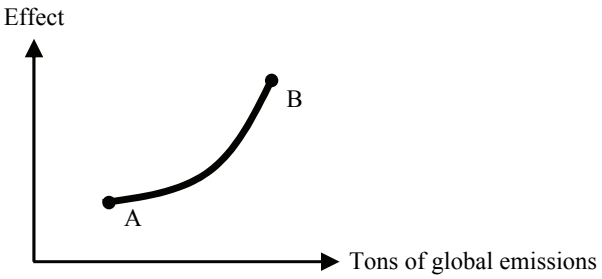

Figure 4: The convex version.

The fourth version—*the tipping point version*—says that all of the effect is due to a tipping point where the curve slopes vertically upwards. If the whole effect were due to such a tipping point (or due to a number of tipping points) then the curve would necessarily have to be flat at all other points. A flat part of the curve indicates that emission reductions make no difference.
In casual talk we often use wordings that, when taken literally, refer to this version. We speak as if there were a certain threshold *below which* emissions are inconsequential, *at which* dangerous climate change sets in and *above which* further emissions make no difference for the worse since dangerous climate change has come into effect anyway. This would mean that in the territory below and above the critical level taking up the slack in the form of unilateral emission

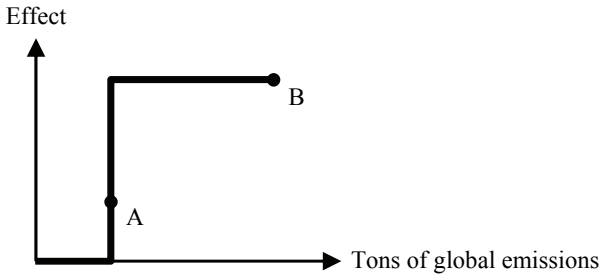

Figure 5: The tipping point version.

reductions would have no effect. In this territory, the effectiveness objection would apply.

The tipping point version, however, seems too stylized to be true. It is implausible that the effects of our emissions should exhibit such radical kinks. When people paint such a picture of the situation, they most likely try to express in a rough and easy way the sense that we are in the convex version (and in particular the sense that there are *very* convex parts of the curve, i.e. parts where additional emissions *quickly* become much more consequential). It would be cumbersome to verbally capture a more precise description and so they retreat to a simplification that corresponds, when taken literally, to strictly rectangular kinks.

If the tipping point version is false, i.e. if the effect cannot exclusively be attributed to one or more points where the curve slopes vertically upwards, then there *must* be some parts of the curve that are not flat but rather slope upwards but less than vertically so. And in these parts, emission reductions—however small—*do* make a difference.

Conceding that the tipping point version is false only implies that emissions make a difference at least in *some* areas. In principle, it might still be the case that in other areas the curve is flat and only starts to slope upwards (according to the linear, the convex, or the concave version) after some threshold is reached. What we would like to know, of course, is whether the curve is flat at the particular point where global emissions currently are and can be expected to be in the future. Is the compliance level that we face in the real world such that the curve slopes upwards, i.e. are we in an area where emission reductions—even small ones—do make a difference?

Even though this is difficult to assess, we can note two points. The first is that economists typically estimate the social cost of carbon to be positive (see Tol 2008). The social cost of carbon is a price tag on the damage done by an additional ton of carbon dioxide. Making the plausible assumption that a higher social cost of carbon is an indicator of higher climate change related human rights violations, we can conclude that we are in a situation where the curve slopes upwards, i.e. where additional emissions have a negative effect. This speaks against the assumption that we are in territory where the curve is flat. As

the stock of carbon in the atmosphere rises, not only is total damage expected to rise but, according to Robert Mendelsohn (2005, 138), *marginal* damage is expected to rise as well. This indicates that we are in convex territory.

A second point to note is that even if we were to grant the claim that taking up the slack in the form of unilateral emission reductions has an extremely *small* effect, the claim that the effect is strictly *zero* is a stronger claim still. It is just as arbitrary to assume that the curve is flat in a particular area as it is to assume that it points slightly upwards or downwards. There is nothing natural or salient about a slope of exactly zero. It would be pure chance if the curve should happen to be perfectly flat in any given area—and therefore also in the area where we currently find ourselves—and thus, in the absence of a positive reason, we should not assume that it is.

The upshot is that it is reasonable to assume that unilateral emission reductions make a difference. This upshot must be qualified slightly: unilateral emission reductions *expectedly* make a difference. The expected difference that small emission reductions make is most likely composed of the following: First, for any small emission reduction there is a large probability that it makes hardly any positive difference; second, for any small emission reduction there is a small probability that it makes a large positive difference; third, for any small emission reduction there is a small probability that it makes a negative difference. For all we know, reducing emissions by one further megaton might just happen to change the climate in such a way that one further storm is created rather than prevented or it might also, for all we know, just happen to prevent a thousand further storms. That is: in the small scale, the curves are not as smooth as drawn in the above figures but rather resemble a staircase with many little tipping points.[23]

However, this insight is of limited action-guiding significance as we do not know where all these little tipping points in the small scale lie. Therefore, we do not know what the *actual* effect of a specific small emission reduction is. What we do know, however, is its *expected* effect. And the expected effect is relevant (cf. Kagan 2011, 119–120). We do not only have reason to prevent a human rights violation of which we are certain but we also have reason to prevent a fifty percent *chance* of two human rights violations or a tiny chance of incredibly many and large human rights violations.[24] If there is a reason to

[23] This is so at least if the curves represent *actual* effects. If the curves already represented expected effects (assuming we do not know where the tipping points lie) then the smooth curvature is appropriate.

[24] Two remarks are appropriate. First, we do certainly not mean to imply a simplified ethics of risk in which there is *equal* reason to prevent a certain rights violation as there is to prevent a 50% chance of two rights violations of the same type. If anything, there is more reason to prevent the latter. Second, note that the fact that the expected difference that our emission reductions make can often be attributed to a small chance of making a *large* difference also solves the problem of imperceptibly small effects. Some might see positive differences that are too small for anybody to be noticed as not counting as genuinely positive effects. This is a highly questionable position in the first place, but even if it were plausible, the fact that we are dealing mainly with small chances of large—and therefore: for many people perceptible—differences would circumvent this problem (on this issue, see Kagan 2011 and Parfit 1984, chapter 3).

prevent human rights violations then there is also a reason to prevent expected human rights violations. And of such expected violations we know that they are affected by our emission reductions.

All of this is not to say that no psychological problem remains (cf. Gardiner 2011, 42; Unger 1996, 75–6). The difference that a small unilateral emission reduction of a single country makes is—or is at least believed to be—so overwhelmingly minuscule relative to the overall expected harm of climate change, that the motivation to engage in such unilateral reductions can be completely stifled. This psychological problem can be mitigated somewhat, first, if we refuse to remain agnostic about the estimated order of magnitude of the effect of small reductions (the agnosticism on the surface all too often hides an implicit assumption that it is negligibly small) and, second, if we compare the prevented human rights violations not to the overall amount of expected human rights violations but rather to the (comparably small) costs of prevention for ourselves. As far as the first point—venturing actual estimates—is concerned, John Nolt's (2011) calculations are of help. He takes estimates of the total harm done by global greenhouse gas emissions and assumes that harm is proportional to emissions.[25] Nolt's admittedly crude figures let us conclude that 1840 metric tons of CO_2 equivalent—i.e. the lifetime emissions of the average American—correspond to the suffering and/or death of one or two future people. This number yields a basis for rough calculations of the order of magnitude of the difference that political measures to take up the slack would make. The number seems far from negligible.

Up to now, we faded out from our view that emission reductions not only make a difference by changing the physical state of the world but also by having secondary effects through changes in the behaviour of others. Taking this into account can yield an effectiveness objection in a second and more radical form: Taking up the slack might have an effect on the protection of human rights but a *negative* one. This second objection is based on economic, political and psychological assessments about the social feedback effects of our emission reductions. Economists are known for pointing out such effects: If we know that someone else will get the job done if we shirk, there is an incentive for us to shirk. Thus, while slack taking in itself can be expected to contribute to the mitigation of climate change, this effect might be outweighed by the indirect effect of tempting others to increase their non-compliance. Reducing emissions below one's fair share could thus ultimately lead to more human rights being violated. However, it is an empirical question how strong this incentive is and the answer to this empirical question is not obvious (cf. for example Fischbacher/Gächter et al. 2001).

[25] Note that dividing the aggregate effect by total emissions will underestimate the effect in case we are in the steeper part of a convex curve. The division might of course also overestimate the effect. Here are two potential reasons for this. First, part of the aggregate effect might be due to imperceptibly small effects. Some might view such unnoticeable effects as not counting towards the overall effect. Second, many of those whose life is made worse due to emissions will not be made sufficiently worse as to have their human rights violated. If we sum up small worsenings for many well off persons whose human rights are not violated then the sum is not as bad (if it counts as bad at all) as a worsening of the same magnitude that hits a single person whose human rights are violated.

The non-compliers might be more impressed by the leadership of the role models than by the opportunity to free-ride in humanity's joint task of creating a safe future. Also, the effect of slack taking on the non-compliers can be influenced by the slack takers: By taking up the slack secretly or by communicating wisely with the non-compliers, they can partly control in what light their actions as do-gooders are seen and therefore what effect they have. For an illuminating discussion, see Stemplowska's (2011) thoughts on a parallel objection by J. L. Cohen (1981).

Besides such direct psychological effects of taking up the slack (incentivizing free-riding, creating shame on the non-compliers for belonging to the bad guys, setting new paradigms of green lifestyle, etc.), there are innumerable further avenues through which taking up the slack affects the compliance levels of others.[26] If the slack takers use less fossil fuel, this decreases demand for fossil fuel and therefore also its price. This in turn incentivizes the non-compliers to use more fossil fuel. Alternatively, innovations in clean technology by the slack takers as well as experimentation with various forms of political regulation can make it cheaper for the non-compliers to reduce emissions (cf. also Maltais 2011). This should lead them to increase their compliance levels.

A further avenue has to do with the method of ascribing emissions (cf. Peters/Hertwich 2008): If the slack takers judge themselves to have reduced *their* emissions even if they only relocate their dirty industries to other countries and then import the goods these industries produce, then, of course, nothing is gained by slack taking. By becoming more independent of oil imports, slack takers change global power relations, which in turn will have ramified effects on political choices made by the non-compliers. And so on. It is of course extremely difficult to make a guess on whether taking up the slack (i) increases the compliance level of non-compliers, (ii) decreases the compliance level of non-compliers, but not sufficiently to outweigh the effort of the slack takers or (iii) decreases the compliance level to such an extent as to outweigh the effort by the slack takers. We must, however, submit that (iii) does not initially seem more plausible than (i) or (ii). In addition, some clues in these otherwise fairly blind guesses might be gleaned from the literature on the rebound effect (cf. e.g. Greening/Greene et al. 2000, 392) and carbon leakage (cf. e.g. Droege 2011, 1192) both of which shed further doubt on the plausibility of (iii). In our view, it is proponents of position (iii) that bear the burden of proof if they want social feedback effects to be taken as a serious strengthening of the effectiveness objection.

Also, we should note that we are not forced to limit ourselves to global judgements about the effect of slack taking on compliance. Even if the effectiveness objection should be plausible in some cases or in an overall judgement about the average effect, we could still hold that there is a duty to take up the slack in those cases where we know that there will be no bad consequences of taking up

[26] In addition, it can even affect our *own* compliance. If we reduce emissions drastically today this can have secondary effects by either facilitating our future emission reductions (for example through the psychological momentum we created) or impeding our future emission reductions (for example because we already exhausted the low hanging fruit of easy reduction opportunities).

the slack. The effectiveness objection is not apt to show that agents are *never* required to do more than their fair share, since there could always be at least *some* circumstances in which the expected consequences of taking up the slack are good.

However, our criticism of the effectiveness objection goes even further. Up to now we implicitly agreed with the claim that *if* taking up the slack in terms of additional emission reductions would have no effect or a negative effect, *then* there would be no reason to take up the slack. Until now, we argued that the antecedent is false: We made the empirical claim that taking up the slack in terms of additional emission reductions actually does make a positive difference in terms of decreasing the amount and severity of human rights violations. Now, we want to hint at the option of making a slight amendment to our position. This amendment invalidates the above implication: *Even if* additional emission reductions had no effect or a negative effect on the protection of human rights, there would still be a case for taking up the slack—as long as the slack is not taken up *in the form of* additional emission reductions. The slight and plausible amendment to our position is this: Up to now, we argued that if non-compliers emit more than their fair share, compliers ought to engage in additional emission reductions beyond their fair share. They should do so for the sake of protecting human rights. We now amend our position by claiming that compliers ought to bear additional burdens—*of whatever kind*—for the sake of protecting human rights rather than necessarily engaging in additional *emission reductions* for the sake of protecting human rights (cf. Cripps 2011; Murphy 2000, 120). Natural candidates for bearing additional burdens in other forms than emission reductions are, first, supporting adaptation measures such that those affected by climate change can cope with it rather than suffer from human rights violations due to unpreparedness and, second, making an effort to convince non-compliers of the urgency of emission reductions, facilitating international negotiations, spreading information about the danger of climate change, and other forms of promoting[27] a political solution. Note that in contrast to the first alternative (adaptation) which takes partial compliance as given and only focuses on responding properly to it, the second alternative (promoting a political solution) tackles compliance levels as the root of the problem, thereby not only protecting human rights of future generations but also increasing fairness within the present generation.

If taking up the slack in the form of additional emission reductions should prove to have no beneficial effect, one could simply direct one's efforts in one of those other directions. Often, we are more confident about the beneficial effect of these other directions and if this is the case, then taking up the slack in the form of pouring effort into these other directions is immune to the effectiveness objection. If it actually is legitimate to substitute a certain *way* of carrying the burden of doing one's fair share under full compliance by a different way of carrying the burden under partial compliance then the effectiveness objection is even further undermined.

[27] Shouldering burdens in the form of *enforcing* the duties of justice that the non-compliers do not voluntarily accept is a special case that would merit separate treatment.

Summing up, if we are either right with our empirical estimate (that taking up the slack via emission reduction contributes to the protection of human rights) or with our normative claim (that one can also take up the slack in the form of other burdens, most notably in the form of support for adaptation measures or in the form of shouldering the efforts of promoting a political solution), then the effectiveness objection has no bite against the duty to take up the slack in partial compliance conditions.

5. Conclusion

In this article, we asked whether there is a duty for those countries who limit their greenhouse gas emissions to their fair share to reduce their emissions even further if other countries emit excessively. We argued that the mere fact that fair shares are *fair* shares and that they determine the extent of the responsibility to reduce emissions under conditions of full compliance does not settle the issue under partial compliance. Given that the non-compliance of the excessively emitting countries puts human rights at risk and given that the protection of human rights is a high moral priority, there is at least a *pro tanto* reason to take up the slack.

We surveyed two countervailing arguments. The first argument against the duty to take up the slack was the fairness objection. We singled out its strongest form, viz. that there is unfairness in having a duty to bear costs as a result of the non-compliance of others. We granted that this is indeed unfair but that there are no sound reasons why fairness among the duty-bearers should have lexical priority before the protection of human rights of the victims of climate change. The second argument—the effectiveness objection—is based on the doubt that reducing emissions below one's fair share might have no positive effect on the protection of human rights. We argued that the empirical case against a positive effect is weak and that even if it were not, it would be plausible to allow slack taking in forms of which one can be confident that their effect on the protection of human rights is positive.

Rejecting these two prominent objections, as we have done, strengthens the position that the *pro tanto* reason is sufficient to ascribe a duty to the compliers to protect the human rights of future generations by making efforts beyond reducing their emissions to their fair share. In the context of climate policy, neither the fairness objection nor the effectiveness objection decisively speaks against the duty to take up the slack. This should not distract, of course, from the fact that first and foremost the non-compliers ought to step up to their duties and thus prevent others from having to step in for them.

Bibliography

Arneson, R. J. (2004), Moral Limits on the Demands of Beneficence?, in: Chatterjee, D. K. (ed.), *The Ethics of Assistance: Morality and the Distant Needy*, Cambridge, 33–58

Bell, D. (2011), Does Anthropogenic Climate Change Violate Human Rights?, in: *Critical Review of International Social and Political Philosophy* 14, 99–124

Caney, S. (2005), Cosmopolitan Justice, Responsibility, and Global Climate Change, in: *Leiden Journal of International Law* 18, 747–775

— (2009a), Climate Change, Human Rights and Moral Thresholds, in: Humphreys, S. (ed.), *Human Rights and Climate Change*, Cambridge, 69–90

— (2009b), Justice and the Distribution of Greenhouse Gas Emissions, in: *Journal of Global Ethics* 5, 125–146

— (2010), Climate Change and the Duties of the Advantaged, in: *Critical Review of International Social and Political Philosophy* 13, 203–228

Cohen, L. J. (1981), Who Is Starving Whom, in: *Theoria* 47, 65–81

Cripps, E. (2011), *What I Must Do If We Fail to Act*, Manuscript

Cullity, G. (2004), *The Moral Demands of Affluence*, Oxford

Droege, S. (2011), Using Border Measures to Address Carbon Flows, in: *Climate Policy* 11, 1191–1201

Fischbacher, U./S. Gächter et al. (2001), Are People Conditionally Cooperative? Evidence from a Public Goods Experiment, in: *Economics Letters* 71, 397–404

Gardiner, S. M. (2011), Is No One Responsible for Global Environmental Tragedy? Climate Change as a Challenge to Our Ethical Concepts, in: Arnold, D. G. (ed.), *The Ethics of Global Climate Change*, Cambridge, 38–59

Greening, L. A./D. L. Greene et al. (2000), Energy Efficiency and Consumption—the Rebound Effect—a Survey, in: *Energy Policy* 28, 389–401

Hiller, A. (2011), Climate Change and Individual Responsibility, in: *The Monist* 94, 349–368

Horton, K. (2004), International Aid: The Fair Shares Factor, in: *Social Theory and Practice* 30, 161–174

— (2011), Fairness and Fair Shares, in: *Utilitas* 23, 88–93

Jamieson, D. (1992), Ethics, Public Policy, and Global Warming, in: *Science, Technology & Human Values* 17, 139–153

Johnson, B. (2011), The Possibility of a Joint Communique: My Response to Hourdequin, in: *Environmental Values* 20, 147–156

Kagan, S. (2011), Do I Make a Difference?, in: *Philosophy & Public Affairs* 39, 105–141

Leist, A. (2011), Klimagerechtigkeit, in: *Information Philosophie* 5/2011, 23–31

Lichtenberg, J. (2010), Negative Duties, Positive Duties, and the 'New Harms', in: *Ethics* 120, 557–578

Maltais, A. (2011), *Failing International Climate Politics and the Fairness of Going First*, to appear

Mendelsohn, R. (2005), The Social Costs of Greenhouse Gases: Their Values and Policy Implications, in: Helm, D. (ed.), *Climate-Change Policy*, Oxford, 134–151

Meyer, L. H./D. Roser (2010), Climate Justice and Historical Emissions, in: *Critical Review of International Social and Political Philosophy* 13, 229–253

Miller, D. (2007), *National Responsibility and Global Justice*, Oxford

— (2011), Taking Up the Slack? Responsibility and Justice in Situations of Partial Compliance, in: Stemplowska, Z./C. Knight (eds.), *Responsibility and Distributive Justice*, Oxford, 230–245

Murphy, L. B. (2000), *Moral Demands in Nonideal Theory*, Oxford

Nolt, J. (2011), How Harmful Are the Average American's Greenhouse Gas Emissions?, in: *Ethics, Policy & Environment* 14, 3–10

Parfit, D. (1984), *Reasons and Persons*, Oxford

Peters, G./E. Hertwich (2008), Post-Kyoto Greenhouse Gas Inventories: Production versus Consumption, in: *Climatic Change* 86, 51–66

Philips, J. (2008), A Critique of Three Recent Studies on Morality's Demands: Murphy, Mulgan, Cullity and the Issue of Costs, in: *Ethic@* 7, 1–13

Sandler, R. (2010), Ethical Theory and the Problem of Inconsequentialism: Why Environmental Ethicists Should Be Virtue-Oriented Ethicists, in: *Journal of Agricultural and Environmental Ethics* 23, 167–183

Singer, P. (2002), *One World: The Ethics of Globalization*, New Haven

Sinnott-Armstrong, W. (2010), It's Not My Fault: Global Warming and Individual Moral Obligations, in: Gardiner, S. M. (ed.), *Climate Ethics: Essential Readings*, New York, 332–364

Stemplowska, Z. (2011), *Doing More Than One's Fair Share*, Working Paper, McCoy Family Center for Ethics in Society, Stanford University. URL: http://ethicsinsociety.stanford.edu/working-papers/Stemplowska-papers/

Streumer, B. (2004), Review of Liam B. Murphy, Moral Demands in Nonideal Theory, in: *Ratio* 17, 357–362

Tol, R. S. J. (2008), The Social Cost of Carbon: Trends, Outliers and Catastrophes, in: *Economics: The Open-Access, Open-Assessment E-Journal* 25, 1–24

Unger, P. K. (1996), *Living High and Letting Die. Our Illusion of Innocence*, New York